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FREQUENCY OF BACTERIAL VAGINOSIS IN ASYMPTOMATIC PREGNANT WOMEN ATTENDING BIBI FATIMA MATERNITY HOME AT PIR ABDUL QADIR SHAH JEELANI INSTITUTE OF MEDICAL SCIENCES GIMS GAMBAT

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Abstract

Introduction: Bacterial vaginosis is a polymicrobial condition characterized by replacement of normally dominant protective lactobacilli by an overgrowth of anaerobic commences (gardnella vaginosis, mobilincus, mycloplasama hominids, ureaplasama urealyticm and pre-vitally) in vagina. Bacterial vaginosis is a very common with exact prevalence varying widely depending on the patient population.

Objective: *To determine the frequency of bacterial vaginosis in asymptomatic pregnant women attending Bibi Fatima maternity home Pir Abdul Qadir shah jeelani institute of Medical Sciences GIMS Gambat.*

Methodology: This Cross Sectional study was conducted on pregnant women attending Bibi Fatima maternity home, Pir Abdul Qadir Shah Jilani institute of medical sciences Gambat. The study was done for a period of six months started from July 2024 to December 2024. Asymptomatic pregnant women at 14-28 weeks of gestation were included in the study. A high vaginal swab stick dipped into secretion through speculum and slides was made and sent to institutional laboratory for clue cells, vaginal PH were tested with PH paper (change in color will be noted) whiff test was performed by adding two drops of KOH on posterior blade of speculum for fishy odour. The diagnosis was made with the help of Amsel's criteria. Presence of >3 signs was labeled as bacterial vaginosis positive.

Result: *A total of 120 pregnant women's with asymptomatic Bacterial Vaginosis were included*

with the mean age of 28.56 ±3.71 years. Mean gestational age was 24.65 ±2.34 weeks. Bacterial Vaginosis was found in 89 (74.2%) patients while 31 (25.8%) patients were free from bacterial Vaginosis.

Conclusion: *The frequency of bacterial vaginosis was found to be very high.*

Keywords: *Bacterial Vaginosis, Amsel's Criteria, gardnella vaginosis*

Introduction

Bacterial vaginosis is a polymicrobial condition characterized by replacement of normally dominant protective lactobacilli by an overgrowth of anaerobic commences (gardnella vaginosis, mobilincus, mycloplasama hominids, ureaplasama urealyticm and pre-vitally) in vagina[1]. A study conducted at Karachi that shows the prevalence of BV in pregnant women 55.38%[2]. Whereas study in Delhi India founded that baciaterial vaginosis affect 9-23% of pregnant women[3] World studies show the prevalence of bacterial vaginosis ranges from 4-64%, depending on the racial, geographic and clinical characteristics of the study population[4]. Bacterial vaginosis is a very common with exact prevalence varying widely depending on the patient population[5]. For the diagnosis of BV both clinical and the gram stain criteria are acceptable methods[6]. Amsel's criteria are the most widely recognized and used as routine test[7]. Most often up to 50% women with BV remain asymptomatic, the symptoms generally mild, include thin grey white homogenous discharge that tends to adhere to vaginal wall, Purities or irritation are not common; it may occur[8]. The characteristics fishy odour results primarily from metabolic by-products of anaerobic bacteria[1]. The presence of BV has consistently been shown to be a risk factor for adverse obstetric outcome, such as preterm labour and delivery, premature rupture of membranes, spontaneous abortion, chorioamnionitis and postnatal infections such as endomertritis and caesarian section wound infections[5]. It does not require laboratory facilities, specialized staff and there is no delay in results[3]. These tests are rapid, extremely sensitive and inexpensive, require minimal instrumentation. Amsel's criteria is gold standard method which provides rapid and accurate diagnosis used in most studies evaluating BV[2]. All above studies was done on symptomatic as well as on asymptomatic pregnant women, but this study is being taken to determine the frequency in asymptomatic pregnant women. So this study will give us the magnitude of bacterial vaginosis in asymptomatic pregnant women with the help of Amsel's criteria there by strategies could be developed to minimize the morbidity and prenatal complications.

Bacterial vaginosis (BV), characterized by a change in normal vaginal flora, is the most common vaginal infection worldwide and is often asymptomatic. It has been linked to preterm labor, preterm rupture of membranes, preterm birth, and even spontaneous abortion. Bacterial vaginosis (BV) is an extremely prevalent vaginal condition and the number one cause of vaginitis [9]. Although it is not a reportable disease, current studies have found that up to 50 percent of pregnant women have been found to have BV.[10-13] However, the majority of cases of BV are asymptomatic and remain un reported and untreated.[11-14] Previously considered a benign condition, BV has been related to many gynecologic conditions and complications of pregnancy including pelvic inflammatory disease, posthysterectomy vaginal cuff cellulitis, endometritis, amniotic fluid infection, preterm delivery, preterm labor, premature rupture of the membranes, and, possibly, spontaneous abortion.[15-20] The role of asymptomatic, compared with symptomatic, BV in both gynecologic and pregnancy-related conditions has been less studied, although research emphasis is shifting toward determining these independent relations. In laboratory and clinical studies, BV has been shown to ascend to the endometrium and invade the placenta, but the complete impact of this migration in terms of initial and sustained placental development and early fetal development is unclear.[21]

Materials and Methods:

This Cross Sectional study was conducted on pregnant women attending Bibi Fatima maternity home, Pir Abdul Qadir Shah Jilani institute of medical sciences Gambat. The study was done for a period of six months started from July 2024 to December 2024. The overall sample size in our study was 117 patients.

Inclusion criteria: All pregnant women at 14-28 weeks gestation diagnosed by asking history

of last menstrual period and confirmed on ultrasound.

Exclusion criteria:

I. Pregnancy with the symptoms of bacterial vaginosis.

II. Pregnancy with medical disorders like diabetes mellitus, hepatic dysfunction, thyroid dysfunction, cardiopulmonary dysfunction and renal diseases.

III. Pregnancy with history of abortion.

IV. Pregnancy with history of ante partum hemorrhage.

V. Multifocal pregnancy.

VI. History of antibiotic intake in last 14 days.

Data Collection Procedure:

After approval of synopsis women meeting the inclusion criteria attending the antenatal clinic of Pir Abdul Qadir shah jeelani institute of Medical Sciences GIMS Gambat was enrolled in the study exclusion criteria was strictly followed to avoid confounding variables. Institutional ethics committee approval and informed consent was taken. Patient was kept in lithotomic position, after separating the vulva with the left hand unlubrieated speculum gently inserted in vagina, while performing speculum examination pooling of secretion was observed for color and odour. A high vaginal swab stick dipped into secretion through speculum and slides was made and sent to institutional laboratory for clue cells, vaginal PH was tested with PH paper (change in color was noted) whiff test was performed by adding two drops of KOH on posterior blade of speculum for fishy odour. So the diagnosis was made by researcher herself with the help of Amsel's criteria. Presence of >3 signs was labeled as bacterial vaginosis positive all above information was recorded in Performa.

Data analysis: Data analysis was done on statistical package of social science (SPSS version 13). Mean and standard deviation was calculated for bacterial vaginosis, parity, positive whiff test, clue cells and virginal PH>4.5.

Effects modifiers was controlled through stratification of age, economic class like poor (monthly income Rs. <10,000) middle class (monthly income Rs.>10,000 to 20,000) upper class (monthly income Rs.>20,000) and education status to see the effect of these on outcome.

Result

A total of 120 pregnant women's with asymptomatic Bacterial Vaginosis were included in our study. Mean age of the patients in our study was 28.56 years with the standard deviation of ±3.71 years. Minimum age of the patient in our study was 21 years while maximum age was 36 years. Age Group distribution shows 81 (67.5%) patients were present in age group between 21-30 years while, 39 (32.5%) patients were present in between 31-40 years of age group. (Figure 1) There were of 66 (55%) patients with > 2 parity in our study while, 54 (45%) patients were with < 2 parity as shown in figure 2.

Frequency of Economic status shows that most of the patients in our study were from Lower Income Class, i.e. 75 (62.5%). Frequency of Patients in middle income class was 37 (30.8%).(figure 3) Out of total 120 patients, most of the patients, i.e. 72 (60%) were Illiterate, 38 (31.7%) patients were matric and 10 (8.3%) patients were Intermediate in our Study. (figure 4) Bacterial Vaginosis was found in 89 (74.2%) patients while 31 (25.8%) patients were free from bacterial Vaginosis. (Figure 5) Stratification of age group shows most of the patients in between age group 21-30 years have Bacterial Vaginosis, i.e. 77 (95.1%) while, in between

age group 31-40, Only 12 (30.8%) patients have Bacterial Vaginosis. (Table 1) Stratification of Economic Status shows, most of the patients with Bacterial Vaginosis were present in Low Income Group, i.e. 55 (73.3%) while, 26 (70.3%) patients in Middle Income group have Bacterial Vaginosis. (Table 2) Stratification of Educational Status shows that All Illiterate patients, i.e. 72(100%) had Bacterial Vaginosis, while all patients with ≥ Intermediate, i.e. 10 (100%) were free from Bacterial Vaginosis. (Table 3)

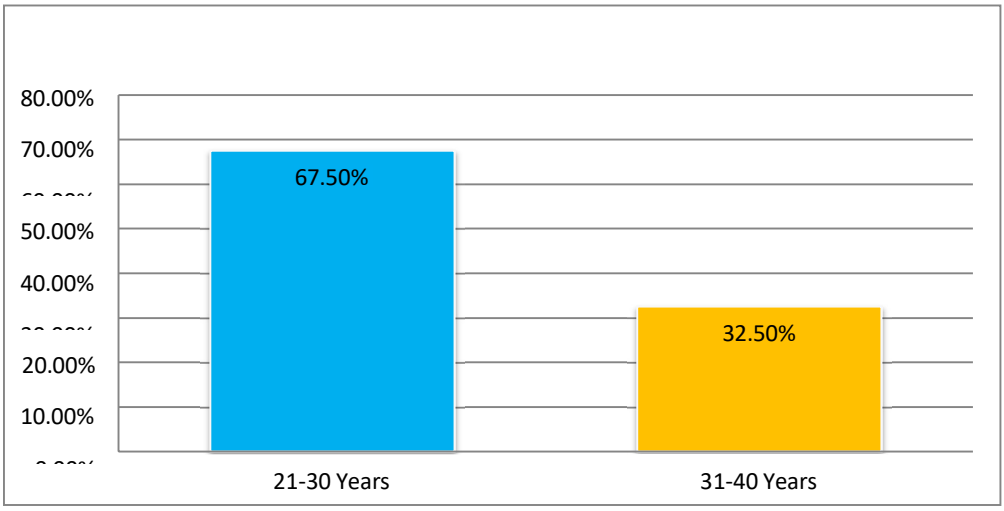

Figure 1: Distribution of patients based on Age Group

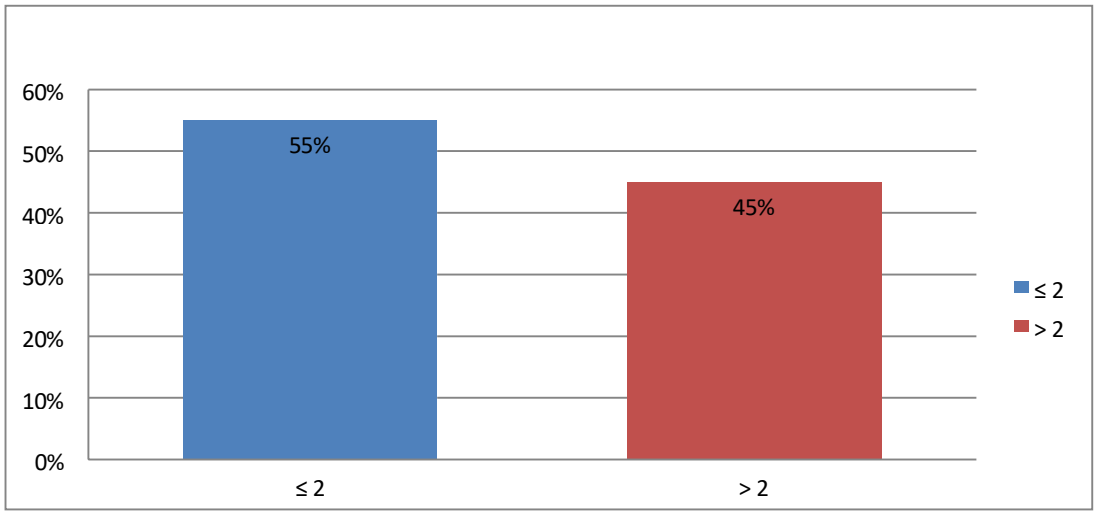

Figure 2: Distribution of patients based on parity

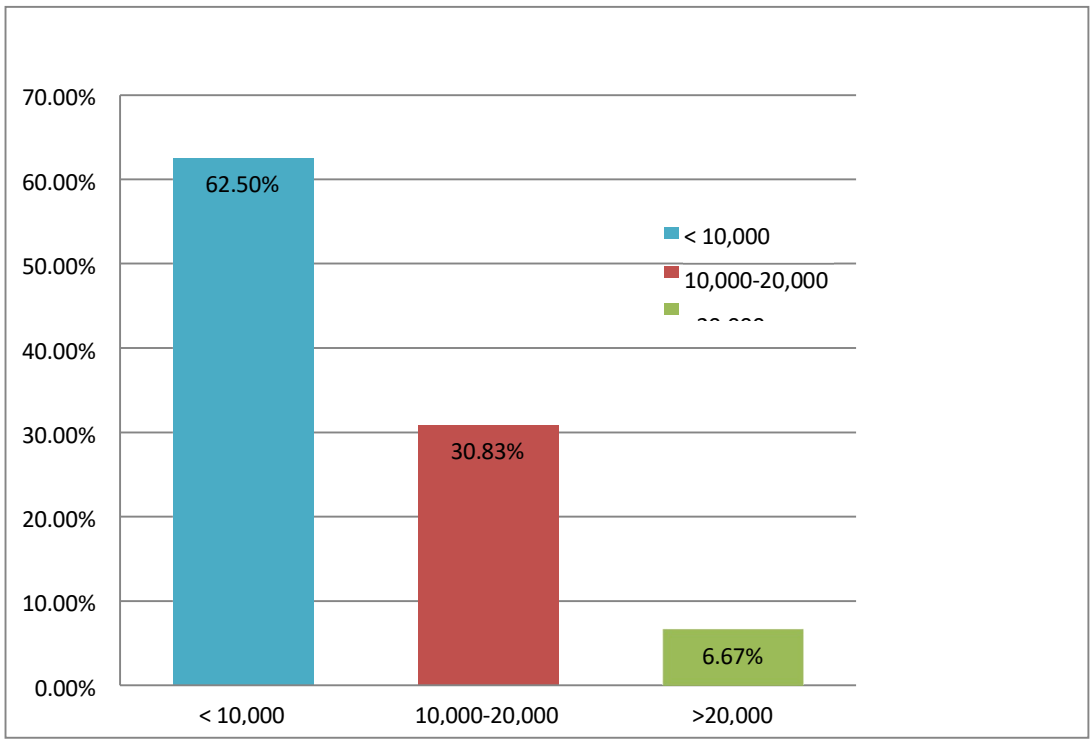

Figure 3: Distribution of patients based on economic status

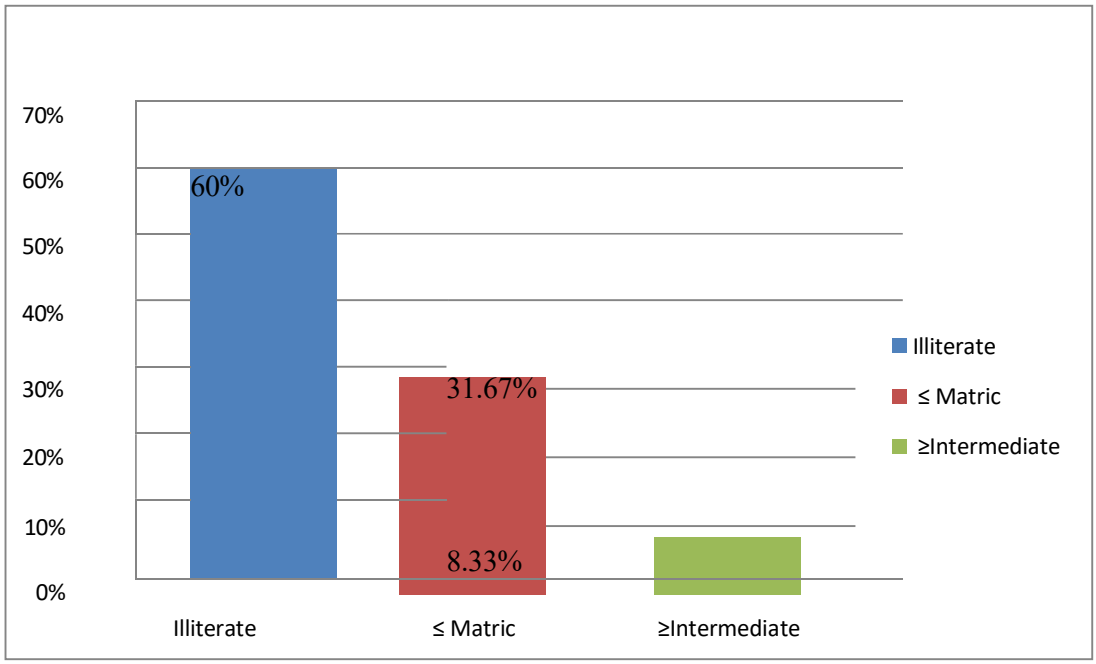

Figure 4: Distribution of patients based on education status

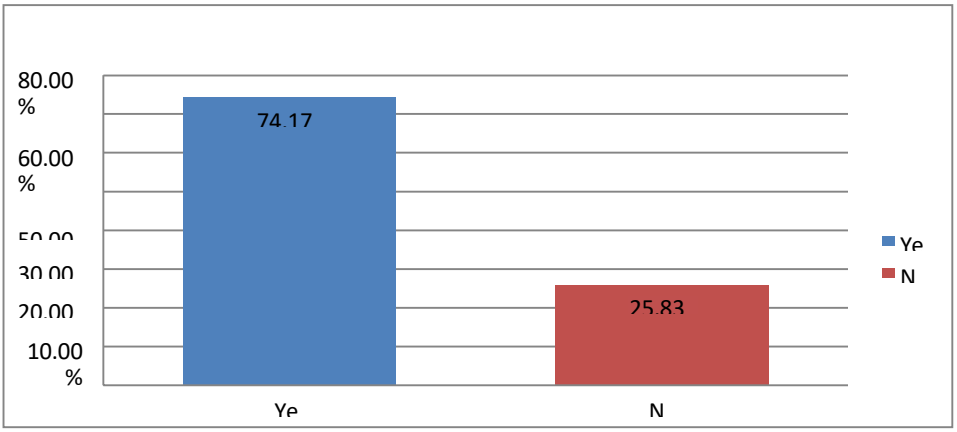

Figure 5: Overall frequency of bacterial vaginosis in asymptomatic pregnant women

Table 1: Age groups and Bacterial Vaginosis

Age Group	Bacterial Vaginosis		Total
	Yes	No	
21-30	77 (95.1%)	4 (4.9%)	81(100%)
31-40	12 (30.8%)	27 (69.2%)	39(100%)
Total	89 (74.2%)	31 (25.8%)	120(100%)

Table 2: Economic Status and Bacterial Vaginosis

Economic Status	Bacterial Vaginosis		Total
	Yes	No	
<10,000	55 (73.3%)	20 (26.7%)	75 (100%)
10,000-20,000	26 (70.3%)	11 (29.7%)	37 (100%)
>20,000	8 (100%)	0 (0%)	8 (100%)
Total	89 (74.2%)	31 (25.8%)	120(100%)

Table 3: Educational Status and Bacterial Vaginosis

Educational Status	Bacterial Vaginosis		Total
	Yes	No	
Illiterate	70 (60%)	0 (0%)	72(100%)
≤Matric	17 (44.7%)	21 (55.3%)	38(100%)
≥ Intermediate	0 (0%)	10 (100%)	10 (100%)
Total	89 (74.2%)	31 (25.8%)	120(100%)

Discussion

Total 120 Patients were included in our study whose mean age was 28.56 years with the standard

deviation of ±3.71 years. Minimum age of the patient in our study was 21 years while maximum age was 36 years. In the study of Rebar RW,[22] Vaginal smears from almost 1500 asymptomatic pregnant women were taken and their median age was 26 years. In the study of Larsson PG et al,[23] ages of the patients range from 30-60 years and in Cristano S et al,[24] 16-49 years. Median age of the patients in Hay PE et al[25] study was 27 years. Mean gestational age observed in our study was 24.65 weeks with the standard deviation of 2.34 weeks. Whereas in one study the gestational ages were found between 18-35 weeks.[22] Much information is known regarding the microbiology and identification of BV; however, limited information exists concerning the factors or behaviors that increase a woman's risk for BV during pregnancy. The current predictors of BV have been limited to race, sexual activity, socio economic status, and perhaps vaginal douching. Most of the epidemiologic studies conducted to date to determine risk factors for BV have concentrated on symptomatic cases and included results from women seeking care in sexually transmitted disease clinics or inner-city obstetric offices. Generalizability of the current literature is unclear since asymptomatic cases have not been examined fully and the current data represent only a subset of women of reproductive age. Nonetheless, the reported prevalence of BV among pregnant women ranges from 10 percent to 35 percent, with higher rates occurring among African-American women, low-income women, or women with prior sexually transmitted diseases. [18] Frequency of Bacterial Vaginosis in our study was found in 89(74.2%) patients. Our results were not matched with the studies which were done in Sweden[19]. 12.2% and 4.9% Bacterial Vaginosis was found in asymptomatic patients respectively. Reasons of these unmatched results may be due to the higher illiteracy rate in our study which may have led to less awareness of such condition. Larsson PG et al[26] in their study stated that Bacterial Vaginosis (BV) is associated with number of lifetime sexual partners and a lower age of 1st intercourse. Similar statement was stated by another study[16], Bacterial Vaginosis (BV) associated with higher number of lifetime partners and higher numbers of partners in the last month and group sex. A previous study [12]stated that Bacterial Vaginosis (BV) associated with more than 1 partner in the last month and with casual sex, however, another study[8] stated that no association of Bacterial Vaginosis (BV) and age of 1st intercourse were found in their study. Bacterial Vaginosis (BV) associated with age over 25 with 5% increase in prevalence per 5yr age group. Significance of bacterial Vaginosis is less in barrier or OC users than in non users. Bacterial Vaginosis (BV) associated with IUD only, no relation to other methods stated by Holst Eet al[81]. The Vaginal Infections and Prematurity Study, which measured BV among pregnant women between 23 and 26 weeks of gestation, found a 2.0-to 2.5-fold increased risk of BV among African-American compared with white pregnant women [18]. Numerous studies have confirmed at least a twofold increased risk of BV among African- American women presumably due to environmental/behavioral exposures or stressors.[22] Stratification of economic status shows, most of the patients with Bacterial Vaginosis in or study were present in low income group, i.e.55 (73.3%). Women of lower socioeconomic status and women self- reporting higher levels of psychosocial stress also have increased rates of BV. In recent studies among obstetrics populations, the reported prevalence of BV ranged from a low of 10 percent among private patients to a high of 35 percent among women reporting low monthly incomes and low educational levels, although these studies did not adjust for race [10]. Culhane et al. assessed the role of chronic maternal stress, as measured by the Cohen perceived stress scale, and found that independent of sociodemographic and behavioral factors, chronic maternal stress remained a significant predictor of BV among pregnant women [27]. Epidemiologic studies have found that early sexual activity, a high number of lifetime sexual partners, women with a new sexual partner, and women with a prior sexually transmitted disease are also at increased risk of BV[9]. BV is more prevalent among women with a prior or current sexually transmitted disease. However, the occurrence of BV may be the direct consequence of exposure to the infectious pathogen, not the sexual behavior. In fact, many pathogens have been shown to change vaginal flora by reducing the concentration of Lactobacillus and promoting anaerobic bacteria proliferation and subsequent BV development [24]. Although sexually transmitted diseases and BV commonly coexist, particularly trichomoniasis and BV. BV is not considered a sexually transmitted disease.[27,28]

Conclusion

The frequency of bacterial vaginosis in our study was found to be very high.

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